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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,386	04/06/2005	Lutz Burkhardt	BURKHARDT L 1 PCT	4883
25889	7590	03/06/2006	EXAMINER	
WILLIAM COLLARD COLLARD & ROE, P.C. 1077 NORTHERN BOULEVARD ROSLYN, NY 11576			KUNDU, SUJOY K	
			ART UNIT	PAPER NUMBER
			2863	

DATE MAILED: 03/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/530,386

Applicant(s)

BURKHARDT, LUTZ

Examiner

Sujoy K. Kundu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 14-24 is/are pending in the application.
- 4a) Of the above claim(s) 14-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>04/06/2005</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Claim Objections***

Claims 22 and 23 objected to because of the following informalities: Aspirative fire recognition device does not comprise a combination of elements. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 14-18 and 20-21 are rejected under 35 U.S.C. 102(b) as being anticipated by McCulloch et al (6,450,024).

With regards to Claims 14, McCulloch teaches a device for determining flow parameters, particularly the temperature, the flow velocity, the flow resistance and its change, in a stream of fluid to be monitored (Figure 2a, Column 10, Line 48 – Column 11, Line 13), particularly in smoke and gas intake detectors, having a thermoelectric air stream sensor (1) that is operated in a constant temperature mode, a thermoelectric temperature sensor (Figure 2a, Column 10, Line 48 – Column 11, Line 13, “temperature detectors”) (2), and a regulation circuit (3) for setting an excess temperature  $\Delta T$  at the air stream sensor (1), whereby the regulation circuit (3) implemented in a microprocessor (Column 13, Line 64 – Column 14, Line 14) (4) furthermore comprises

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an evaluation algorithm for recognizing small, sudden volume stream changes of the fluid stream, which are not based on disruptive ambient influences and do not proceed gradually (Abstract).

With regards to Claim 15, McCulloch teaches a device wherein the evaluation algorithm is furthermore configured for calculating flow parameters on the basis of the electric heating power  $P$  of the air stream sensor (1), particularly for calculating the mass stream  $N$ , the flow velocity  $w$ , the volume stream  $V$ , and the flow resistance  $F_w$  of an intake pipe system (Figure 4, 78) (13), and the temperature  $T$  of the fluid stream (Abstract, Column 10, Line 61 – Column 11, Line 11).

With regards to Claim 16, 21 McCulloch teaches the device wherein the evaluation algorithm includes the compensation of a temperature-dependent and/or pressure-dependent density change of the fluid stream (Column 7, Lines 1-25).

With regards to Claim 17, McCulloch teaches the device wherein the microprocessor (4) contains a memory for storing starting values of the flow parameters, for calculating status changes in the flow parameters in the evaluation algorithm (Column 14, Lines 28-52).

With regards to Claim 18, McCulloch teaches a method for operating a device wherein the air stream sensor (1) is increased to a peak temperature value for a short period of time (Column 13, Line 64 – Column 14, Line 14).

With regards to Claim 20, McCulloch teaches a method for determining flow parameters, particularly the temperature  $T$ , the flow velocity  $w$ , and its change  $\Delta w$ , in a

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fluid stream to be monitored, particularly in smoke and gas intake detectors, having the following method steps:

a) Determination of the fluid temperature  $T$  by means of a thermoelectric temperature sensor (2) (Figure 2a, Column 10, Line 48 – Column 11, Line 13, “temperature detectors”);

b) Regulation of the constant excess temperature  $\Delta T$  set at a thermoelectric stream sensor (1), operated in constant temperature mode, as a function of the fluid temperature  $T$  (Figure 2a, Column 10, Line 48 – Column 11, Line 13,);

c) Determination of the amount of heat  $Q$  removed from the thermoelectric air stream sensor (Column 10, Lines 9-45);

d) Calculation of flow parameters, particularly the temperature  $T$ , the flow velocity  $w$ , the flow resistance  $F_w$  its change  $\Delta F_w$ , on the basis of the amount of heat  $Q$ , removed, by means of an evaluation algorithm implemented in the microprocessor (Abstract, Column 10, Lines 9-45, Column 13, Line 64 – Column 14, Line 14)

e) determination of time changes, particularly small sudden volume changes, of the flow parameters determined under point d), which are not based on disturbing environmental influences and do not happen slowly (Abstract, Column 1, Line 47 – Column 2, Line 14)

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over McCulloch et al (6,450,024).

With regards to Claim 19, McCulloch teaches a temperature (Column 13, Line 64 – Column 14, Line 14).

McCulloch discloses the claimed invention except for the temperature being 500 degrees Celsius. It would have been obvious to one having ordinary skill in the art at the time the invention was made to , since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Claims 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCulloch et al (6,450,024) in view of Lee et al (4,946,555).

With regards to Claim 22, McCulloch teaches a device for determining flow parameters (See rejection above, and Abstract).

McCulloch does not teach an aspirative fire recognition device and/or oxygen measurement device, which constantly takes samples of space air or equipment cooling air from a space or piece of equipment (12) to be monitored, and feeds them to a detector (8), via a pipeline system (13), for detecting a fire characteristic and/or other gases, particularly oxygen.

Lee teaches an aspirative fire recognition device and/or oxygen measurement device, which constantly takes samples of space air or equipment cooling air from a space or piece of equipment (12) to be monitored, and feeds them to a detector (8), via

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a pipeline system (13), for detecting a fire characteristic and/or other gases, particularly oxygen (Figure 1, Column 3, Lines 30-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include an aspirative fire recognition device and/or oxygen measurement device, which constantly takes samples of space air or equipment cooling air from a space or piece of equipment (12) to be monitored, and feeds them to a detector (8), via a pipeline system (13), for detecting a fire characteristic and/or other gases, particularly oxygen as taught by Lee into McCulloch for the purpose of better maintaining the environment for hazardous chemicals (Lee, Column 1, Lines 25-31).

With regards to Claim 23, McCulloch teaches the air stream sensor and/or temperature sensor are integrated into the detector, particularly in the center of the air entry channel of the detector (Figure 2a, Column 10, Line 48 – Column 11, Line 13, “temperature detectors”).

McCulloch does not teach an aspirative fire recognition device and/or oxygen measurement device.

Lee teaches an aspirative fire recognition device and/or oxygen measurement device (Figure 1, Column 3, Lines 30-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include an aspirative fire recognition device and/or oxygen measurement device as taught by Lee into McCulloch for the purpose of better maintaining the environment for hazardous chemicals (Lee, Column 1, Lines 25-31).

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With regards to Claim 24, McCulloch teaches a device wherein the air stream sensor is disposed in a position in the air entry channel of the detector that is narrowed in cross-section (Figure 2a, Column 10, Line 48 – Column 11, Line 13).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sujoy K. Kundu whose telephone number is 571-272-8586. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 571-272-2269. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SKK  
02/27/2006

  
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